

LEGEND

- Location - Drilling, Testing, or TA
- Oil Well - Dakota "D" Zone
- Gas Well - Dakota "D" Zone
- Oil Well - Upper Hospah Zone
- Water Injection Well - Hospah Zone
- Oil Well - Lower Hospah Zone
- Dual Oil Well - Upper & Lower Hospah Zones
- Dual Well - Lower Hospah Oil & Dakota Gas
- Oil Well - Dakota "A" Zone
- Gas Well - Dakota "A" Zone
- Oil Well - Dakota "B" Zone
- (Kdb)
- Dry Hole

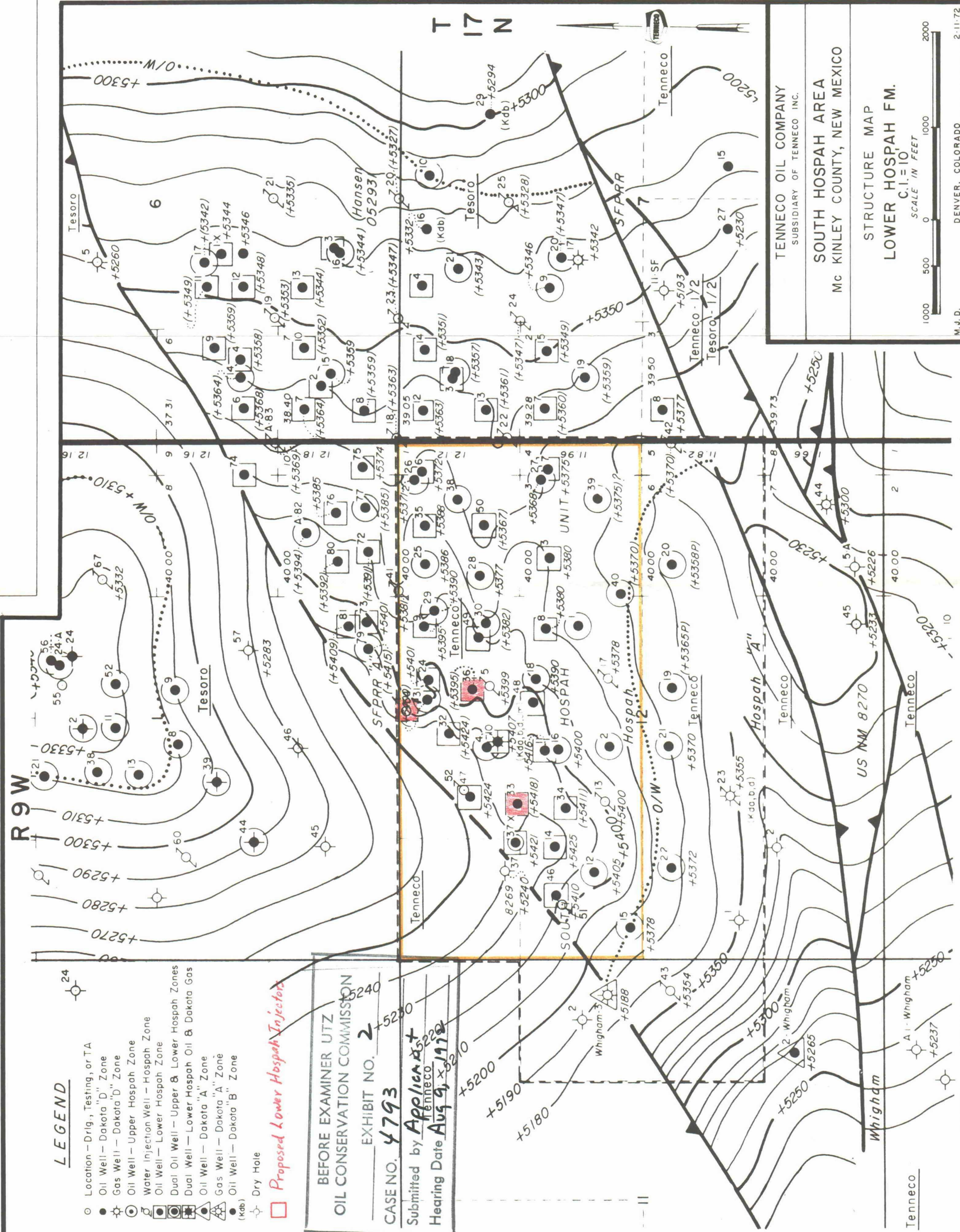
Proposed Lower Hospah Injector

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. 2
CASE NO. 4793

Submitted by Applicant
Hearing Date Aug 9, 1978

Tenneco



TENNECO OIL COMPANY
SUBSIDIARY OF TENNECO INC.

SOUTH HOSPAH AREA
Mc KINLEY COUNTY, NEW MEXICO

STRUCTURE MAP
LOWER HOSPAH FM.
C.I. = 10'

SCALE IN FEET
0 500 1000 2000

M.J.D. DENVER, COLORADO 2-11-72

LEGEND

- Location - Drilling, Testing, or T.A.
- Oil Well - Dakota "D" Zone
- Gas Well - Dakota "D" Zone
- Oil Well - Upper Hospah Zone
- Water Injection Well - Hospah Zone
- Oil Well - Lower Hospah Zone
- Dual Oil Well - Upper & Lower Hospah Zones
- Dual Well - Lower Hospah Oil & Dakota Gas
- Oil Well - Dakota "A" Zone
- Gas Well - Dakota "A" Zone
- Oil Well - Dakota "B" Zone
- Dry Hole

□ Proposed Lower Hospah Injectors

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION

EXHIBIT NO. **3**

CASE NO. **4793**

Submitted by **Applicant**

Hearing Date **Aug. 9, 1972**

17 N

R 9 W

US NM 8270

Whigham

A1 - Whigham

2 - Whigham

Tenneco

Hospah "A"

(Kda, b, d)

Whigham-3

2

Whigham-3

2

Whigham-3

2

Whigham-3

2

Whigham-3

2

Whigham-3

2

Whigham-3

2

Whigham-3

2

Whigham-3

2

Whigham-3

2

Whigham-3

2

Whigham-3

TENNECO OIL COMPANY
SUBSIDIARY OF TENNECO INC.

SOUTH HOSPAH AREA
MC KINLEY COUNTY, NEW MEXICO

NET PAY ISOPACHOUS MAP
LOWER HOSPAH FORMATION
C.I. = 10'

SCALE IN FEET
1000 500 0 1000 2000

DENVER, COLORADO
M.J.D. 5-25-72

TENNECO OIL COMPANY
ROSPAID NO. 46
1700' F/NL & 700' F/WL
Sec. 12, T17N & R9W
Elev: 7068' ND

TENNECO OIL COMPANY
HOSPAN NO. 37X
80' F/NL & 1260' F/NL
Sec. 12, T17N & R9W
Elev: 7069' KB

TENNECO OIL COMPANY
HOSPITAL NO. 47
85' F/NL & 1775' F/WL
Sec. 12, T17N & R9W
Elev: 7064; KB

TENGOCO OIL COMPANY
 HOSPITAL NO. 12
 550' F/M. & 2370' F/WL
 Sec. 12, T17N & R9W
 Elev: 7061' Nb

TENNECO OIL COMPANY
HOSPAL NO. 24
0° F/NL & 2650° F/LL
Sec. 12, T17N, R9W
Elev: 7041' NB

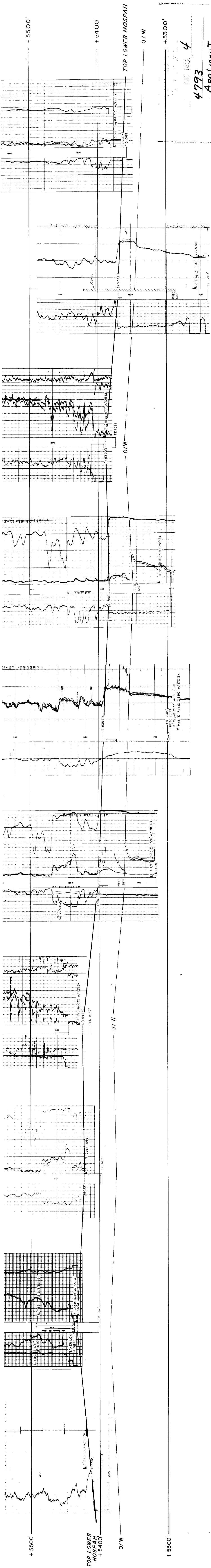
TENNECO OIL COMPANY
 HOSPITAL NO. 9
 0' F/NL & 2051' F/EL
 ec. 12, T17N & R9W
 Elev: 7021' NB

ENNESCO OIL COMPANY
HOSPITAL NO. 25
00' F/NL & 1505' F/EL
Sec. 12, T17N & R9W
Elev: 6996' KB

TENNECO OIL COMPANY
HOUSTON NO. 35
30' F/WL & 850' F/LIL
Sec. 12, T17N & R9W
Elev: 6907' ND

ENNECO OIL COMPANY
HOSPAH NO. 6
0' F/NL & 330' F/EL
ec. 12, T17N & R9W
Elev: 6953' KB

ESORO
FE NO. 12
/NL & 330' F/WL
C. 7, T17N & ROW
lev: 0927' NB

[illegible]

B

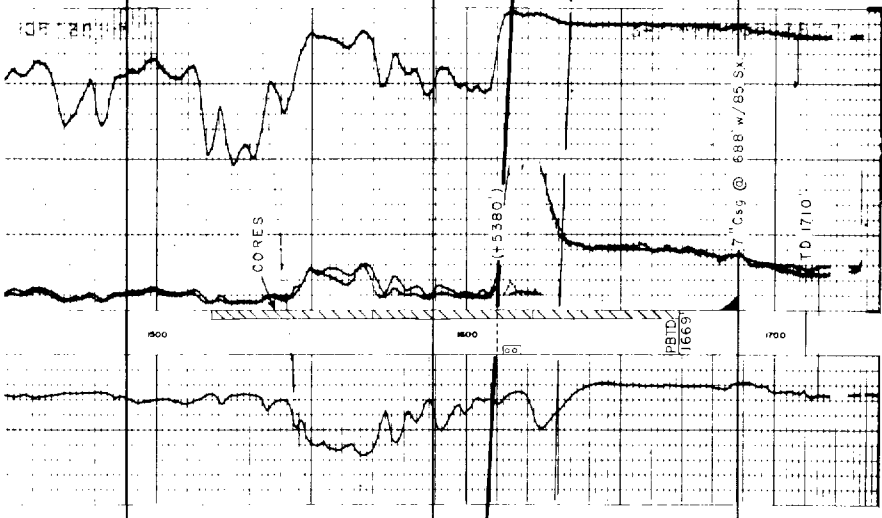
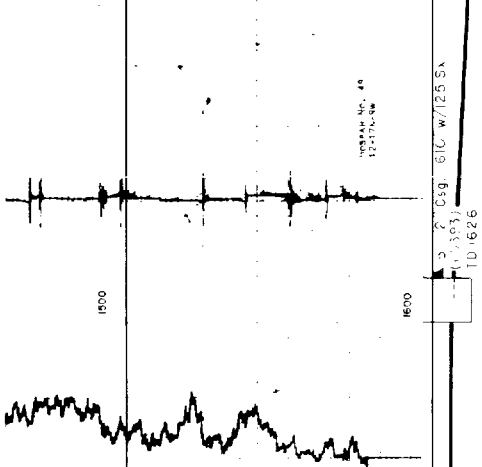
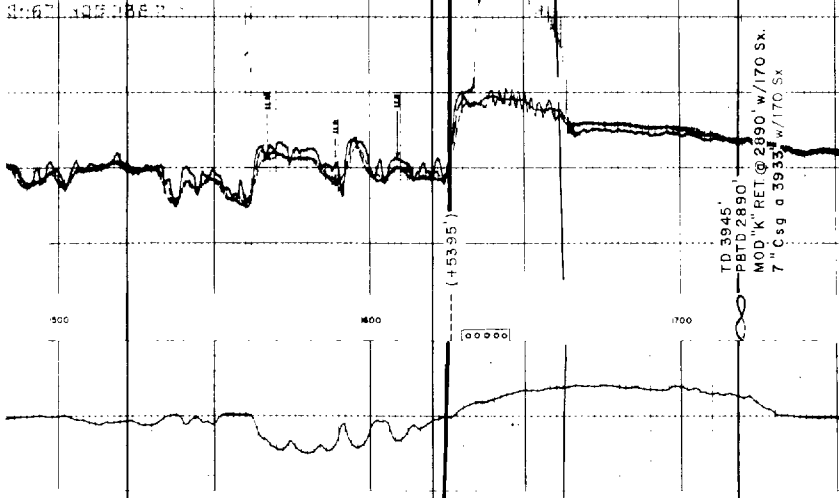
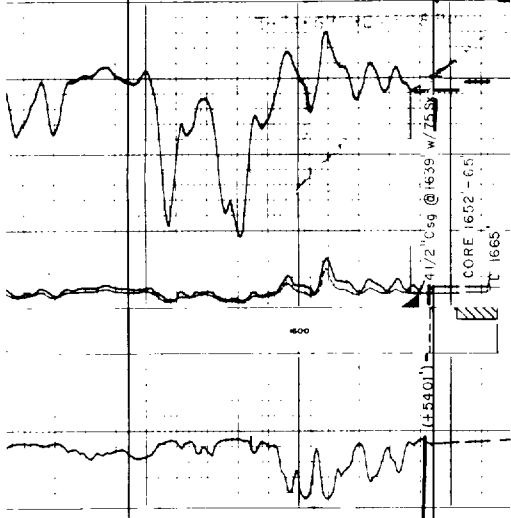
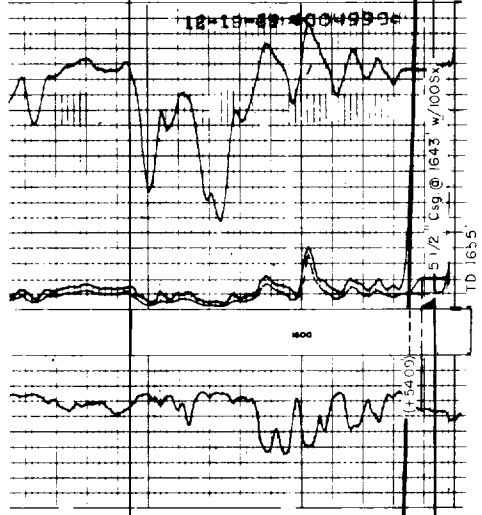
TENNECO OIL COMPANY
HOSPAN NO. 81
350' F/NL & 2000' F/LL
Sec. 1, T17N & R9W
Elev: 7044' KB

TENNECO OIL COMPANY
HOSPAN NO. 73
330' F/NL & 2000' F/LL
Sec. 1, T17N & R9W
Elev: 7044' KB

TENNECO OIL COMPANY
HOSPAN NO. 9
330' F/NL & 2000' F/LL
Sec. 1, T17N & R9W
Elev: 7021' KB

TENNECO OIL COMPANY
HOSPAN NO. 49
330' F/NL & 2117' F/LL
Sec. 1, T17N & R9W
Elev: 6990' KB

TENNECO OIL COMPANY
HOSPAN NO. 6
1050' F/NL & 2051' F/LL
Sec. 1, T17N & R9W
Elev: 6990' KB



TD: 1655'
POTD: ---
Csg. & Cmt.: 5-1/2" @ 1643' w/100 sx.
Perfs: Oil 1643' - 1655'
Init. Stim.: Natural
Init. Pot.: 12/69: P 89 BOPD, 0 wtr.
Rem. work: None
Latest Test: 6/72: P 71 BOPD, 120 BWPD
Cum. Prod.: 7/1/72: 45,553 BO, 32,983 BW

TD: 1665'
POTD: ---
Csg. & Cmt.: 4-1/2" @ 1639' w/75 sx.
Perfs: Oil 1639'-1665'
Init. Stim.: Natural
Init. Pot.: 3/67: P 90 BOPD, 0 wtr.
Rem. work: None
Latest Test: 6/72: P 57 BOPD, 132 BWPD
Cum. Prod.: 7/1/72: 115,380 BO, 125,912 BW

TD: 3945'
POTD: 2890' (Mod "K" Retainer)
Csg. & Cmt.: 7" @ 3933' w/510 sx.
Ret. set w/170 sx.
Perfs: 1630'-44' & 1645' (all 2SFF.)
Init. Stim.: Natural
Init. Pot.: 4/67: P 42 BOPD, 0 wtr.
Rem. work: None
Latest Test: 6/72: P 57 BOPD, 132 BWPD
Cum. Prod.: 7/1/72: 115,380 BO, 125,912 BW

TD: 1626'
POTD: ---
Csg. & Cmt.: 5-1/2" @ 1610' w/125 sx.
Perfs: 1610'-26' (OH)
Init. Stim.: Natural
Init. Pot.: 12/71: P 76 BOPD, 0 wtr.
Rem. work: Deepened 0' to 1626' Pump 37 BOPD, 140 BWPD
Latest Test: 6/72: P 20 BOPD, 140 BWPD
Cum. Prod.: 7/1/72: 5404 BO, 2443 BW

TD: 1710'
POTD: 1669'
Csg. & Cmt.: 7" @ 1668' w/ 85 sx.
Perfs: 1612'-18' w/2SFF
Init. Stim.: Natural
Init. Pot.: 6/67: P 40 BOPD, 0 wtr.
Rem. work: 5/67: Sq. single perf. @ 1613' w/25 sx. diesel oil cat. & rev. out 5 sx. Perf. 1613'-18' w/2SFF
1669: Perf. 1613'-18' w/2SFF
9/69: Installed Reva Pump
Latest Test: 6/72: P 49 BOPD, 456 BWPD
Cum. Prod.: 7/1/72: 67,242 BO, 734,894 BW

TOP LOWER HOSPAN

O/W

O/W

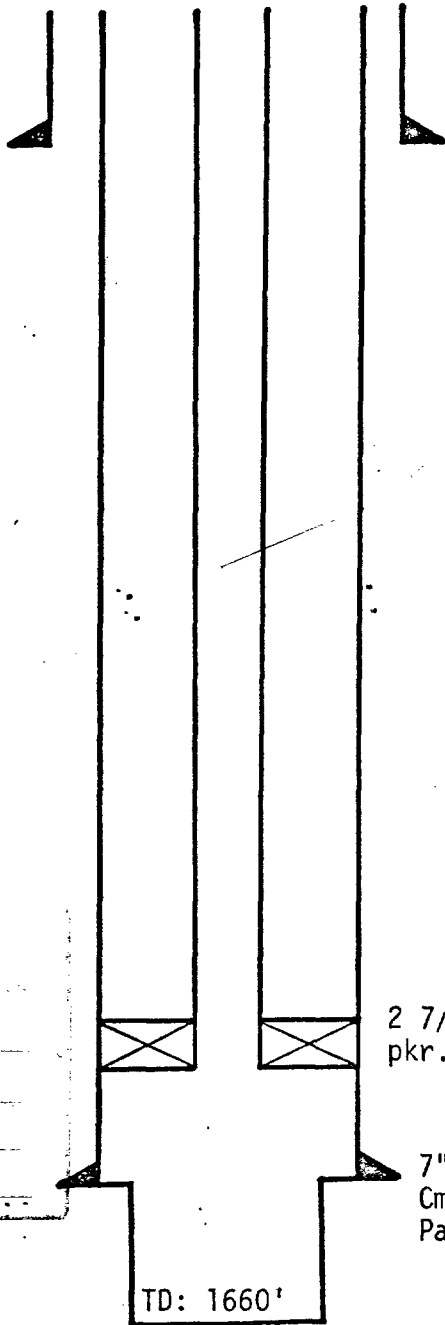
TOP LOWER HOSPAN

O/W

ENT NO. 5
4793
APPLICANT
AUG. 9, 1972

TENNECO OIL COMPANY
HOSPAN SOUTH AREA
McKINLEY COUNTY, TEXAS
NORTH - SOUTH CROSS SECTION
B-8'
LOWER HOSPAN SAND

Elev: 7066' KB (12' AGL)



10 3/4", 32.75#, H-40 CSG. @61'
Cmt'd w/70 sx. Cmt Circ.

Top Cmt. 1264'

2 7/8", 6.5#, J-55 tbg. on tension
pkr. @ approx. 1625'

7", 20#, K-55 Csg. @ 1647'
Cmt'd w/125 sx.
Pay: Lower Hospah Sand
1648' - 60' (Open Hole)

TD: 1660'

6
4793
APPLICANT
Aug. 9, 1972

Init. Stim: Completed Naturally
Init. Pot.: 9-14-69 - Pmp'd 156 BO
0 Wtr., GTSTM in 24 hrs.
Recent Test: 7-11-72 - Pmp'd 41 BOPD,
252 BWPD
Cum. Prod: 7-1-72 - 46,032 BO,
207,589 BW

TENNECO OIL COMPANY

South Hospah Lower Sand Field
McKinley County, New Mexico

Hospah No. 33
Proposed Gas-Water Injection Well
1340' FNL & 1710' FWL, Section 12
T17N, R9W,

Exhibit 6

Elev :7019' KB (12' AGL)

10 3/4", 32.75#, H-40 csg. @ 68'
cmt'd w/605x cmt. circ.

Top Cmt. 1225'

4793

Applicant

AUG. 9, 1972

2 7/8", 6.5#, J-55 tbg. on tension
pkr. @ approx. 1600'

7", 20#, K-55 csg. @ 1624'
cmt'd. w/125 sx.

Pay: Lower Hospah Sand
1624' - 35' (Open Hole)

T D: 1635'

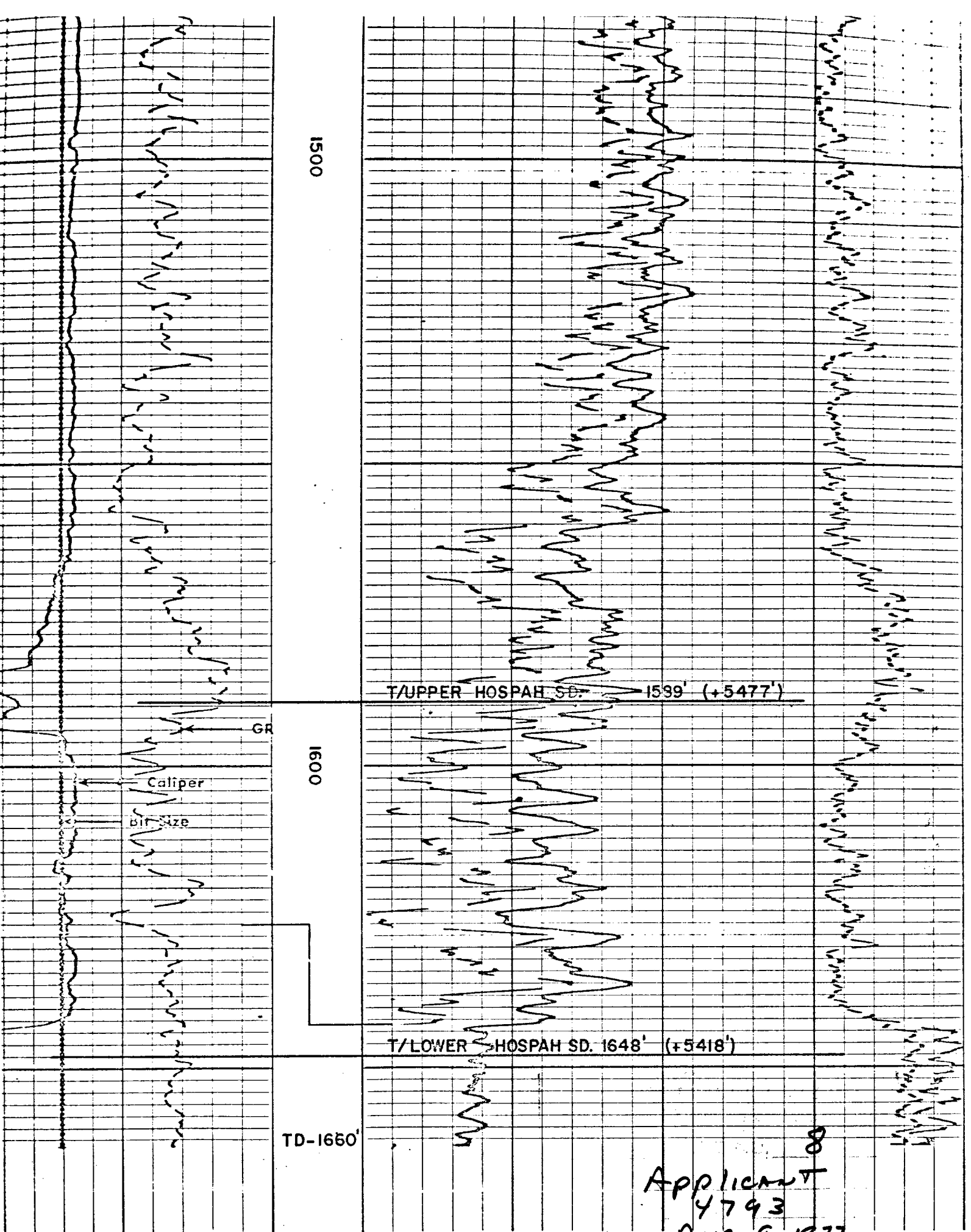
Init. Stim: Completed Naturally
Init. Pot: 9-9-69 - Pmp'd 96 BO
0 wtr., GTSTM in 24 Hrs.
Recent Test: 6-15-72 - Pmp'd 17 BOPD
224 BWPD
Cum Prod: 7-1-72 - 27,869 BO,
179,398 BW

TENNECO OIL COMPANY

South Hospah Lower Sand Field
McKinley County, New Mexico

Hospah No. 36
Proposed Gas - Water Injection
Well
900' FNL & 2630' FEL, Section 12
T17N, R9W

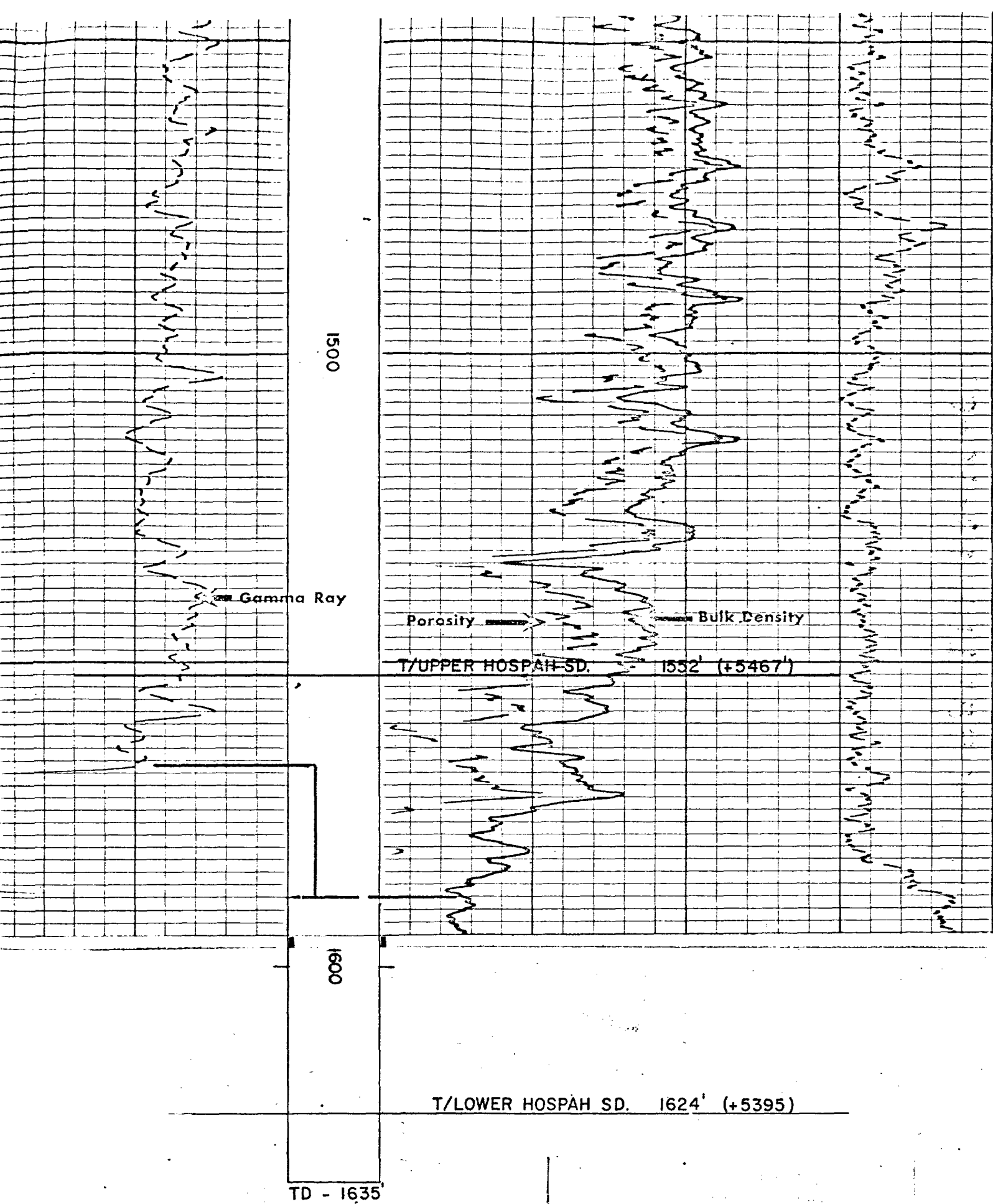
Exhibit 7



CALIPER		SANDSTONE POROSITY — %		CORRECTION	
HOLE DIAM. IN INCHES		GRAIN DENSITY 2.65 GRAMS CC		GRAMS/CC.	
DEPTHS					
COMPANY	TENNECO OIL COMPANY	Rm	--	@	--
WELL	HOSPAH #33	BHT	TLTM	"F	"F
FIELD	HOSPAH	SCHL. FR 1644'			
COUNTY	MC KINLEY	SCHL. TD 1645'			
STATE	NEW MEXICO	DRLR TD 1647'			
		Elev:			
		KB 7065.5'			
		DF 7064'			
		GL 7054'			

CALIBRATION DATA

EXHIBIT 8



WELL NO. 9
4793
APPLICANT
Aug 9, 1972

COMPANY TENNECO OIL COMPANY

WELL HOSPAH #36

FIELD HOSPAH

COUNTY MC KINLEY STATE NEW MEXICO

Rm -- @ -- °F
BHT TLTM °F

SCHL. FR 1588'
SCHL. TD 1589'
DRLR TD 1589'
Elev: KB 7018.5'
DF 7017.5'
GL 7007'

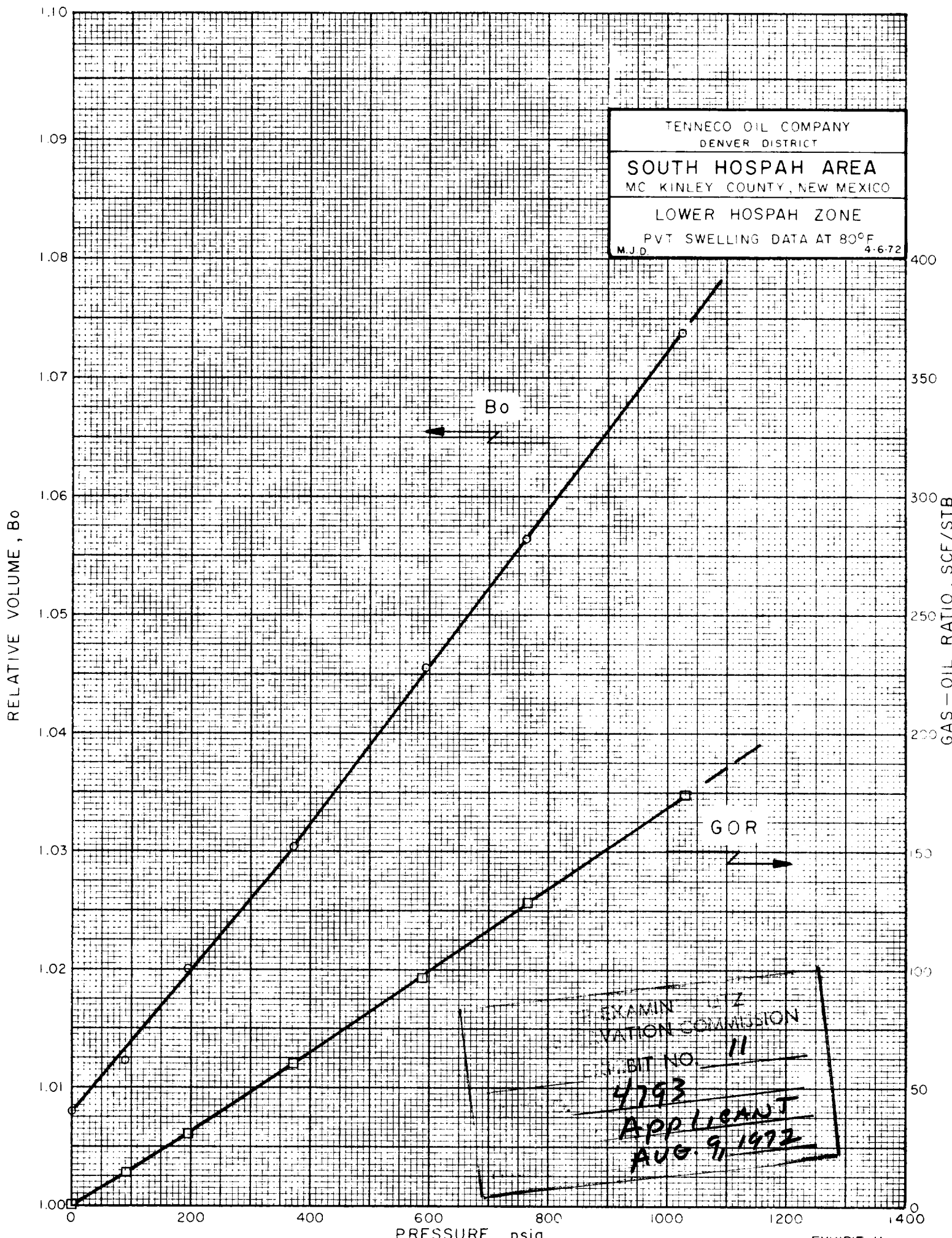
CALIBRATION DATA

EXHIBIT 9

TABLE I
TENNECO OIL COMPANY HOSPAH LEASE
SOUTH HOSPAH (LOWER HOSPAH SAND) FIELD
ROCK AND FLUID PROPERTIES

Average Depth to Sand, Ft.	1625
Average Gross Formation Thickness, Ft.	105
Average Porosity, %	27.5
Average Water Saturation, %	40
Average Air Permeability, md.	1100
Productive Area, Acs.	286
Average Net Pay, Ft.	25.7
Productive Volume, Ac-Ft.	7350
Initial Oil-in-place, STBO/Ac-Ft.	1242
Initial Oil-in-place, MSTBO	9129
Initial Reservoir Pressure, psig	600
Initial Reservoir Temperature, °F	80
Crude Viscosity @ 80 °F, cp	55
Crude Gravity @ 60 °F, °API	24
Initial Formation Volume Factor, Boi	1.04

10
4793
Applicant.
Aug. 9, 1972



TENNECO OIL COMPANY
DENVER DISTRICT

SOUTH HOSPAH AREA
MC KINLEY COUNTY, NEW MEXICO

LOWER HOSPAH ZONE
VISCOSITY AT BUBBLE POINT

M.J.D. PRESSURES 80° F 4-7-72

VISCOSITY, CENTIPOISES

80

70

60

50

40

30

20

10

0

195 psig B.P.

373 psig B.P.

593 psig B.P.

1028 psig B.P.

PRESSURE, psig

0

500

1000

1500

2000

2500

3000

EXHIBIT NO. 12

4793

APPLICANT
AUG 9, 1972

EXHIBIT 12